Event-based Studies of Interannual Variations in Summertime Precipitation Over the Southwestern United States

Figures

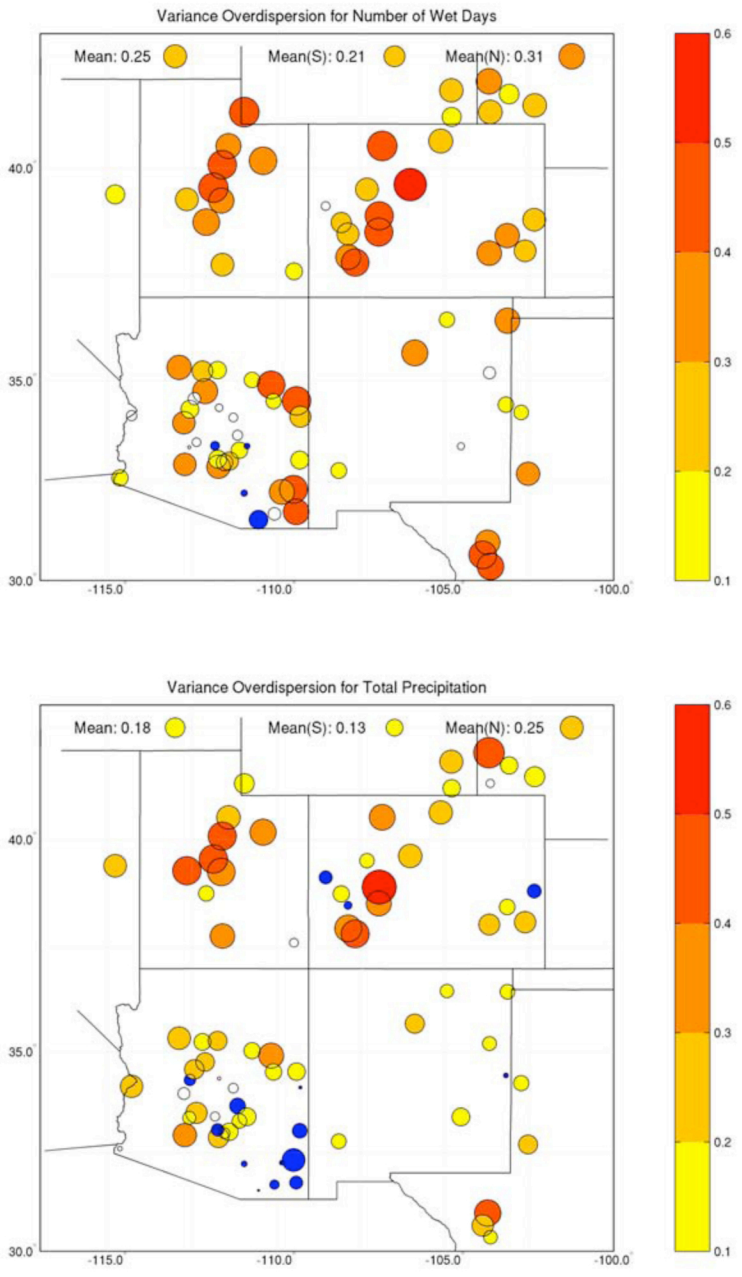

Fig. 1 (TOP) Spatial distribution of variance overdispersions for seasonal total wet days using the second-order non-seasonal occurrence model. The solid dots represent positive overdispersions and empty circles represent negative overdispersions. The area and shading of the dots are proportional to the absolute value of overdispersion. (BOTTOM) Same as (TOP) except for total seasonal rainfall

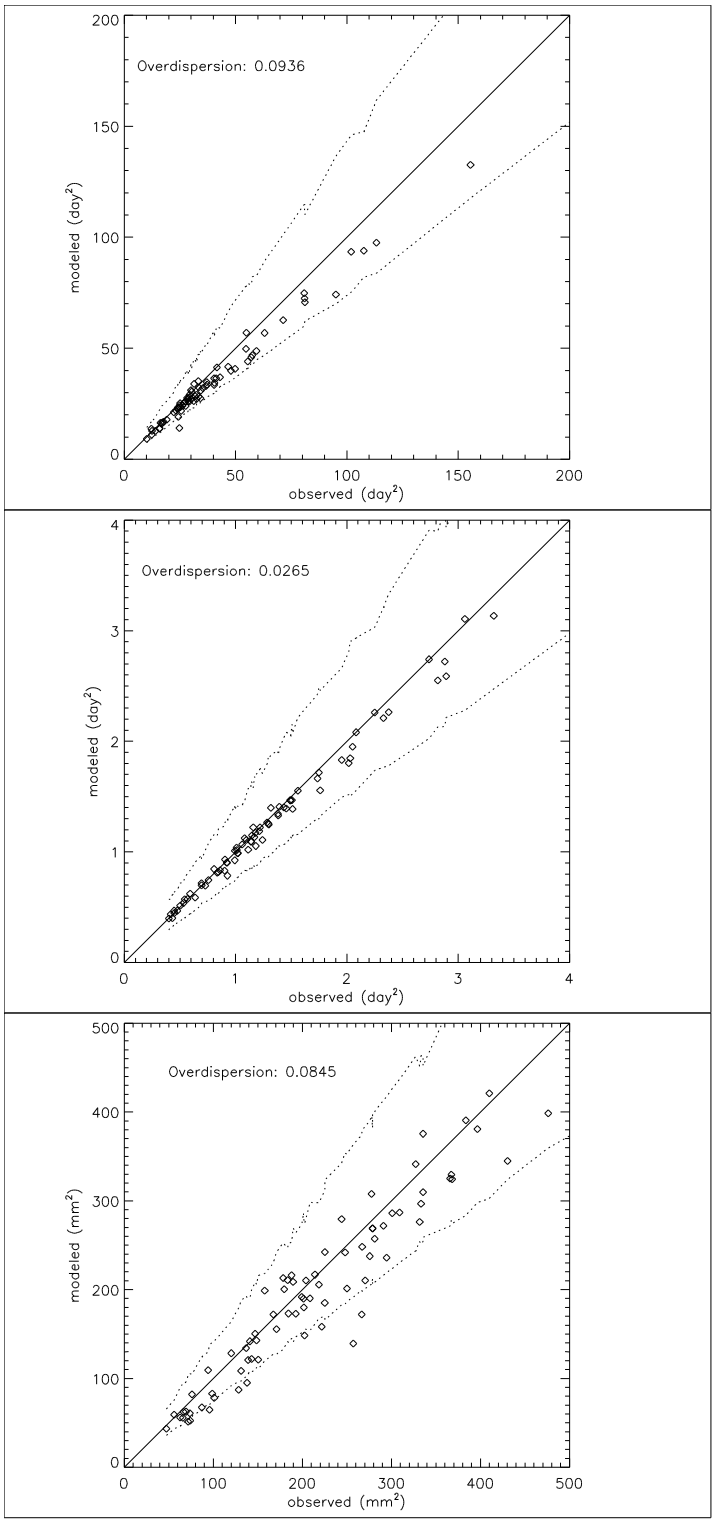

Fig. 2 (TOP) Relationship between observed and modeled variances for dry spell lengths. Model results produced using the chain dependent model. Shown in the top left corner is area-average overdispersion; (MIDDLE) Same as (TOP) but for wet spell lengths; (BOTTOM) Same as (TOP) but for storm amounts

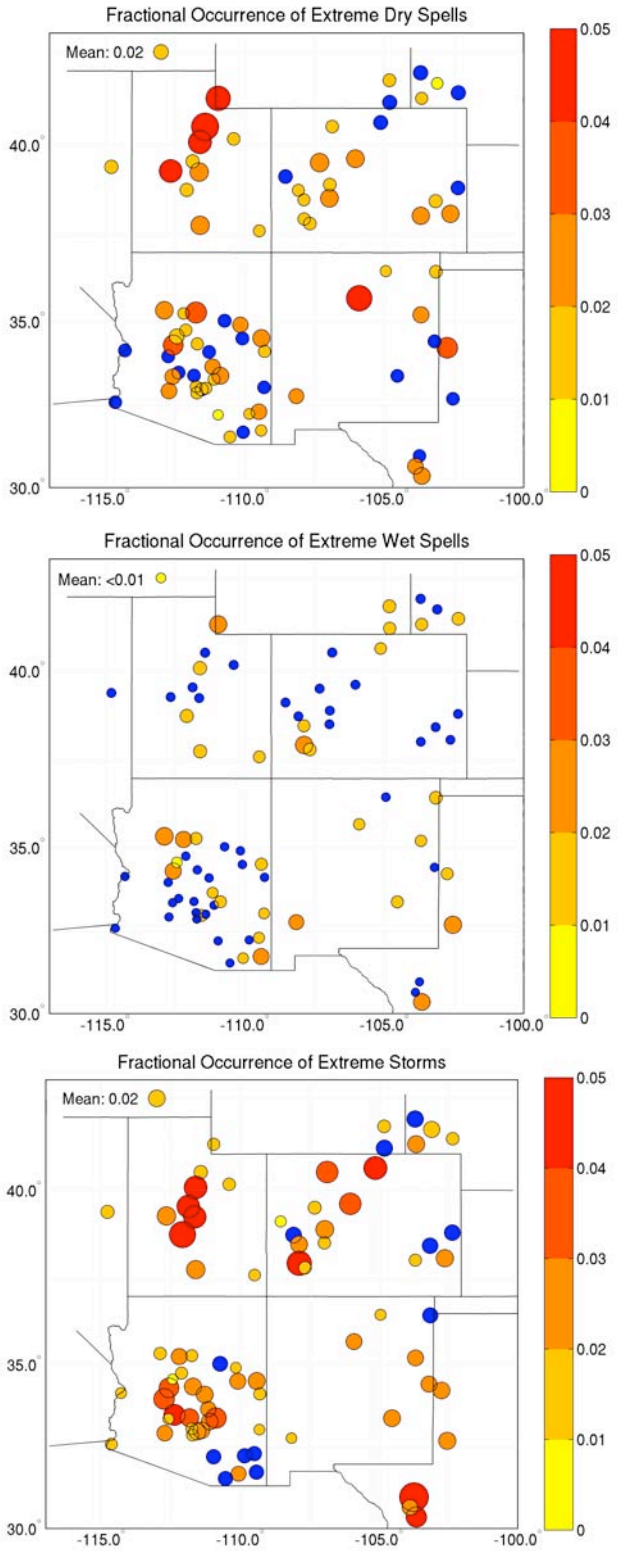

Fig. 3 Fraction (%) of years with extreme dry spells (top), years with extreme wet spells (middle), and years with extreme storms (bottom) determined with the *plotting positions* and *maximum distribution* methods. The area and shading of the solid dots are proportional to the fractional occurrence at each station. The empty circles on figures represent zero occurrences.

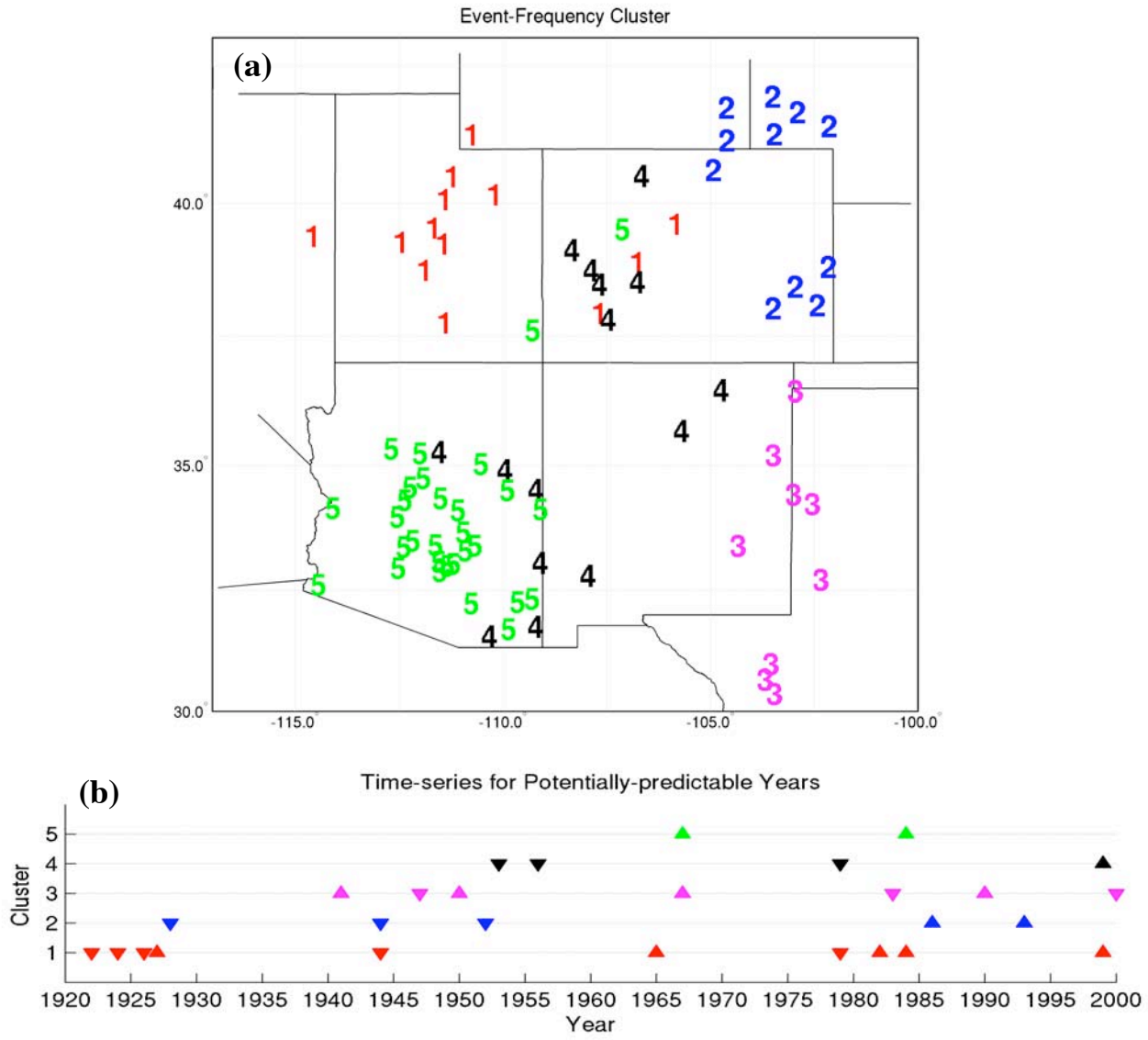

FIG.4 (a) Spatial clusters of stations having similar year-to-year variations in the occurrence characteristics based upon combined EOF rotation/K-means analysis. (b) Identification of years with potentially-predictable anomalies in the number of rainfall events for the cluster. Up arrows indicate higher than normal number of rainfall events; Down arrows indicate lower than normal number of rainfall events; no symbol indicates lack of potential predictability

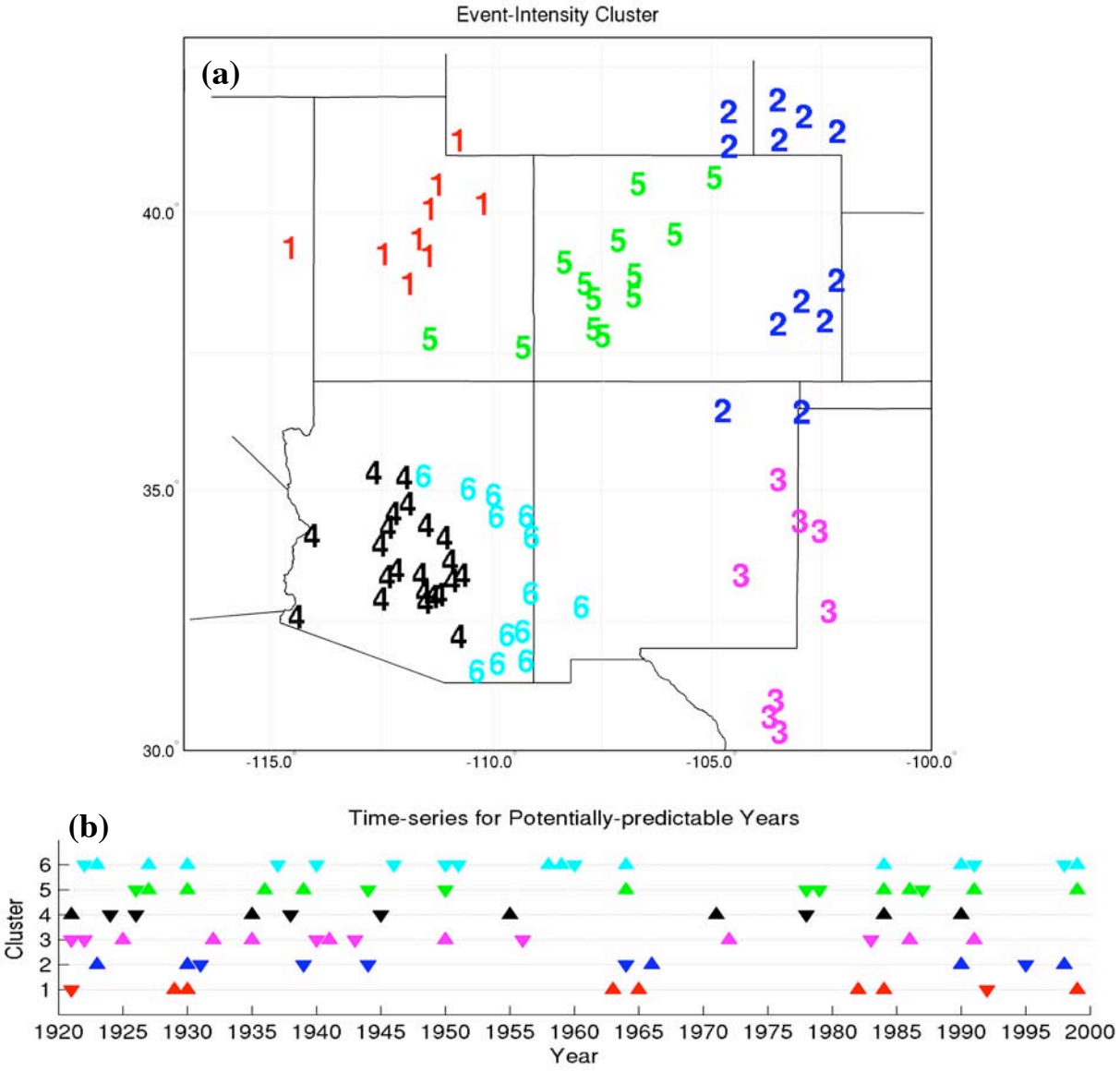

FIG.5 (a) Spatial clusters of stations having similar year-to-year variations in the intensity characteristics based upon combined EOF rotation/K-means analysis. (b) Identification of years with potentially-predictable anomalies in the intensity of rainfall events for the cluster. Up arrows indicate more intense rainfall events; Down arrows indicate less intense rainfall events; no symbol indicates lack of potential predictability